

PROGRAM FOR ARTERIAL SYSTEM SYNCHRONIZATION (PASS) FY13/14 CYCLE

East Blithedale Avenue and Camino Alto Signal Timing Project

City of Mill Valley | Caltrans | Metropolitan Transportation Commission

PROJECT OVERVIEW

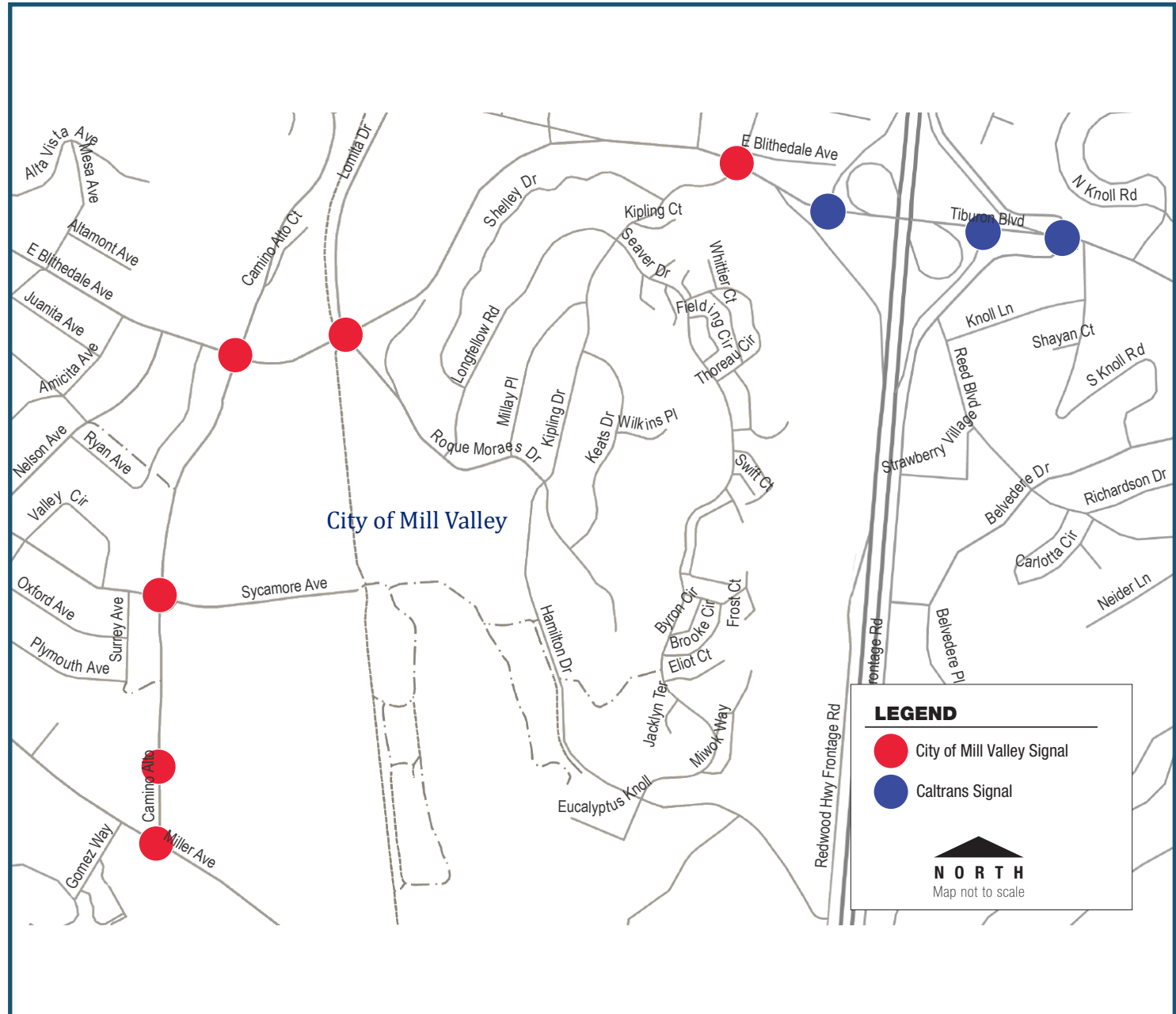
The City of Mill Valley received a grant from Metropolitan Transportation Commission's Program for Arterial System Synchronization (PASS) to deploy optimized signal timing plans along East Blithedale Avenue between Redwood Highway Frontage Road and Camino Alto, and along Camino Alto between East Blithedale Avenue and Miller Avenue. As part of the project, nine intersections were identified for retiming during the weekday AM, midday, school peak, and PM periods, as well as the weekend peak period.

All signals are currently fully-actuated, of which six intersections are operated and maintained by the City of Mill Valley, and three intersections are operated and maintained by Caltrans. The City of Mill Valley last studied and retimed these signals in 2001. All City-maintained signals operate using BiTran 170 controllers. The signalized intersections that Caltrans maintains were recently upgraded to 2070 controllers with TSCP firmware.

The goal of this project is to improve coordination between these signals and help to address operational deficiencies.

The PASS project involved the completion of the following tasks: data collection, review of traffic data (including collision data), development of recommended adjustments to

(CONTINUED ON NEXT PAGE)



PROJECT OVERVIEW (CONTINUED)

actuated timings, development of coordination plans for the weekday, weekend, and school peak periods, implementation and fine-tuning of the recommended timings, “before” and “after” travel time surveys, and project documentation.

Fine-tuning was conducted immediately following the implementation of the new timings to ensure the most effective timings were deployed into the system. Offset revisions were made to enable enhanced progression.

BENEFITS TO VARIOUS MODES



BENEFITS TO BICYCLISTS:

Bicycle minimum green time was reviewed to meet the California MUTCD guidelines for minimum bicycle clearance.



BENEFITS TO PEDESTRIANS:

Pedestrian timing parameters were reviewed for each project intersection to ensure adequate crossing time for pedestrians.



BENEFITS TO TRAFFIC SAFETY:

To enhance traffic safety, all timing parameters at each project intersection were reviewed. These parameters

include: minimum green time, yellow time, all-red clearance time, Walk time, Flashing Don't Walk time, and bicycle minimum green time.

Project Costs

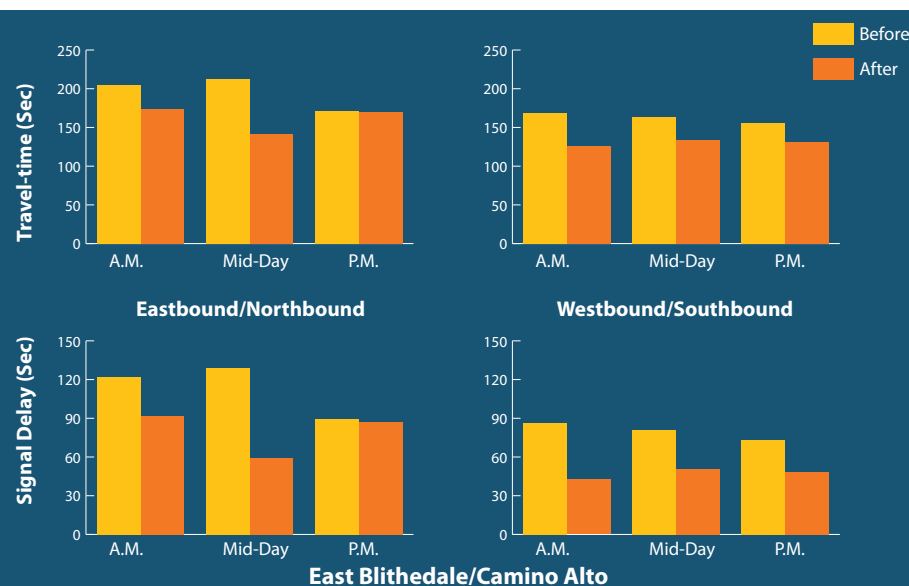
Consultant Costs (Basic Services/ Plans)	\$40,500
Consultant Costs (Additional Plans, TSP, IM Flush Plans, etc.)	\$11,000
Other Project Costs (GPS Clocks, Communications equipment, etc.)	\$2,500
Agency Staff Costs (Estimate)	\$10,125
Total Costs	\$64,125

Project Benefits

Measures	First Year		Lifetime (5 Years)	
	Savings	Monetized Savings	Savings	Monetized Savings
Travel Time Savings	23,395 hrs.	\$456,568	62,759 hrs.	\$1,224,771
Fuel Consumption Savings	42,859 gal.	\$165,399	114,971 gal.	\$443,692
ROG Emissions Reduction	0.125 tons	\$157	0.334 tons	\$421
NOx Emissions Reduction	0.110 tons	\$1,982	0.295 tons	\$5,316
PM2.5 Emissions Reduction	0.006 tons	\$1,733	0.015 tons	\$4,649
CO Emissions Reduction	1.283 tons	\$99	3.443 tons	\$266
Total Lifetime Benefits				\$1,679,115

Overall Project Benefits

	Auto
Average Decrease in Travel Time	9%
Average Speed Increase	21%
Average Fuel Savings	6%
Average Reduction in Signal Delay	28%
Average Reduction in Number of Stops	37%
Overall Benefit-Cost Ratio	32:1



PROJECT BENEFITS SUMMARY



Average Reduction in Auto Signal Delay: 28%

Average Reduction in Number of Stops: 37%

Auto Fuel Consumption Savings: 6% or 114,971 gallons



Total Emissions Reduced (ROG, NOx, PM2.5, CO): 4.08 tons

Auto Travel Time Savings: 9% or 62,759 hours



Overall Project Benefit-cost Ratio = 32:1



For more info, please contact:

Ganesh Karkee (MTC)

Arterial Operations Program Coordinator

Phone: 510.817.5625 • Email: GKarkee@mtc.ca.gov

Jill Barnes (Mill Valley)

Public Works Director/City Engineer • 415.384.4801

jbarnes@cityofmillvalley.org

Project Consultant:

Iteris, Inc.

